APRIL/MAY 2023

CCA53/CCS53 — DESIGN AND ANALYSIS OF ALGORITHMS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Give the diagram representation of Notion of algorithm.

2. What is trees?

3. What is binary search?

4. How Selection Sort Works?

5. What is greedy method?

6. How is Prim's algorithm calculated?

7. What is a multistage graphs?

8. Define BFS.

9. What is meant by eight queen problem?

10. Why do we use backtracking?

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SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) What is stack in data structure and algorithm?

Or

(b) What is queues in data structure and algorithm?

12. (a) Write a note on space complexity?

Or

(b) Write a note on time complexity?

13. (a) What are the applications of greedy method?

Or

(b) Explain optimal merge pattern.

14. (a) Write a note on string editing.

Or

(b) Discuss about the reliability design.

15. (a) Write a note on sum of subsets with explain.

Or

(b) Write a note on Hamiltonian cycles.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain Asympotic Notation with an example.

17. Briefly about the merge sort with an example.

18. Explain Kruskal's Algorithm.

19. Explain DFS with an example.

20. Briefly about the eight Queens problem.